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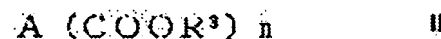
(72)Inventor : KITAGAWA YUKIO
MIKI SHIGEO
KITAGAWA HIROSHI

(54) PRODUCTION OF ALIPHATIC POLYCARBOXYLIC ACID AMIDE

(57)Abstract:

PURPOSE: To obtain a new trivalent or tetravalent aliphatic polycarboxylic acid amide which is a useful material as an antioxidant, ultraviolet absorbent, antibacterial agent, mildew-proofing agent, nucleating agent, additive to polymers, etc.

CONSTITUTION: This compound is an aliphatic polycarboxylic acid amide expressed by formula I [A is a 3-10C aliphatic saturated carboxylic acid residue; X is NR₁R₂ (R₁ and R₂ are each H, an alkyl, a halogenoalkyl, an alkenyl, a cycloalkyl, a cycloalkenyl, an aryl or an aralkyl); (n) is 3 or 4], e.g. 1,2,3- propanetricarboxylic acid tricyclohexylamide. A compound of formula I is obtained by heating an aliphatic polycarboxylic acid ester of formula II (R₃ is a 1-4C alkyl) and an amine of formula III without using a catalyst or in the presence of an acid catalyst to carry out ester-amide interchange reaction. By this process, the objective compound is easily and efficiently produced on an industrial scale at a low cost in high yield and purity.



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